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J.Green photo imp.

GENETS FROM LIBERIA.

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7. Report upon a Small Collection of Mammalia brought from Liberia by Mr. Leonard Leighton. By R. I. Pocock, F.L.S., Superintendent of the Gardens.

(Plate LIV.)

[Received November 23, 1907.]

Although the collection forming the subject-matter of this paper is small and consists of flat, native-prepared headless skins, it is worthy of special notice not only because it was got together in a definite district in a part of Africa of which the fauna is not well known, but also because the skins themselves, with one or two exceptions, belong to species which are not very commonly brought to the Museums of Europe.

The skins were obtained, Mr. Leighton tells me, in a district from fifteen to twenty miles west of the Putu Mountains, which lie west of the Duobe and Cavally Rivers. The Cavally River is the eastern boundary line between Liberia and the Ivory Coast, and the Duobe is one of its tributaries joining the Cavally about seventy miles, as the crow flies, from its mouth, after running for over one hundred miles nearly parallel to the main stream.

Two of the species represented, namely *Poiana richardsoni* and *Genetta poensis*, have not been previously recorded from Liberia. Judging from the fact that there is only one skin of *G. poensis* in the British Museum and only one in Mr. Leighton's series, it would appear that this species is of somewhat rare occurrence in the area over which it is distributed. Of *Poiana richardsoni*,

\* "M. Gmelin de Gottingue continue toujours son édition du Système de la Nature de Linné; il vient d'en publier la quatrième partie qui concerne les insectes."

however,—a species also reputed to be scarce—Mr. Leighton got six skins of various ages, and these prove to represent an undescribed local race of this Genet-like animal, differing in certain well-marked characters from the typical form which has been known for over sixty years. I am also compelled to regard as examples of a species as yet undifferentiated, the skins, five in number, of a second kind of Genet, which I name in honour of Sir Harry Johnston. These skins, however, belong in all probability to the species previously recorded from Liberia and misquoted as *Genetta pardina*.

#### CERCOPITHECUS DIANA (Linn.).

*Cercopithecus diana* Linn., Jentink, Notes Leyden Mus. xx. p. 237, 1898; Pocock, P. Z. S. 1907, p. 682.

Mr. Leighton brought home a fine pair of Monkeys of this species and presented them to the Society's Gardens. There is also a native-prepared skin in his collection.

The figure purporting to represent this species in Sir Harry Johnston's work on Liberia (vol. ii. pl. facing p. 680) has the rusty-brown thighs typical of the species, but the long white beard characteristic of the allied form, *C. roloway*, which takes the place of *C. diana* on the Gold Coast.

#### FELIS PARDUS Linn.

Subsp. LEOPARDUS, Schreb.

*Felis pardus leopardus* Schreb., Pocock, P. Z. S. 1907, p. 675.

Skins of the paws of a Leopard brought back by Mr. Leighton prove, if proof were wanting, that the Leopard of Liberia belongs to the typical tropical West-African forest-race, named *leopardus*, which has been previously recorded from Sierra Leone, Ashanti, and elsewhere.

#### FELIS AURATA Temm.

Subsp. CELIDOGASTER Temm.

*Felis aurata celidogaster* Temm., Pocock, P. Z. S. 1907, p. 660.

Two native-prepared skins, without heads and paws. These two skins completely bear out the view I expressed in the above-quoted paper as to the importance of the pattern and the valuelessness of the colour as characters for the recognition of geographical races of this species of Cat. One is of the red type and the other of the grey type; but in the red skin the sides of the body have a grey tinge, owing to the presence of the whitish-grey band in the individual hairs. So far as pattern is concerned the two skins are practically alike. The neck is longitudinally but rather confusedly barred; on the spinal area the spots are elongate or form abbreviated lines; the shoulders are somewhat thickly covered with small spots; on the sides of the body the spots are larger, often more or less confluent and sometimes rosette-like, owing to the darkening of the area between them;

on the thighs the spots are as large as on the body; the belly is white and marked with spots both larger and darker than those of the sides; the tail is dark in the median dorsal line and has indistinct lateral bars which do not encircle it.

In my recently published observations upon this species, I referred to Sir Harry Johnston's record of the occurrence of 'red' and 'grey' cats of this species side by side in Liberia; but I was unable to ascertain whether the red-haired skin he figured belonged to the strongly spotted form (*F. aurata celidogaster*) or to the weakly spotted, almost spotless form (*F. aurata aurata*). The skins brought back by Mr. Leighton demonstrate that the 'red' and 'grey' phases of the species that occur near the Cavally River belong to the strongly spotted type. Hence it may be inferred as probable that the red-haired specimen mentioned by Sir Harry Johnston also belonged to the spotted type. In that case there is no evidence of the occurrence of the weakly spotted form in Liberia; nor, so far as I am aware, has it been recorded from Ashanti, Cape Coast Castle, and Accra, whence the large-spotted form has been brought.

GENETTA POENSIS Waterh. (Plate LIV. fig. 4.)

*Genetta poensis* Waterhouse, P. Z. S. 1838, p. 59.

*Genetta poensis* Pousargues, Ann. Sci. Nat. (8) iii. p. 286, 1896 (from Mayumba, French Congo).

The type of this species is in the British Museum. Waterhouse's description of it is very accurate. It is, however, difficult to explain his comparison of the species with *Genetta pardina* Is. Geoff. St. H., and still more difficult to understand Dr. Matschie's statement that the two are very likely identical, if he read the description of *G. poensis*. As a matter of fact, it would be hard to find two more dissimilar species in the genus. *G. pardina* has a yellowish-grey ground-colour. There are only four or five rows of spots on the sides of the body, and those of at least the two uppermost rows are large, somewhat quadrangular, comparatively widely separated, with red centres and black rims, and do not coalesce into longitudinal lines. The tail is very distinctly banded with white almost to the end and only the backs of the legs appear to be dusky. In *G. poensis*, on the contrary, the spots are close-set, solid and numerous; as many as seven rows are traceable on each side and they coalesce here and there into lines, especially dorsally and on the outer side of the thighs. The limbs are almost wholly blackish brown, with at most a narrow area of paler speckled hairs down the front. The tail also is mostly black, the pale annuli being reduced to lateral patches which are much more distinct in the basal than in the distal half, which is wholly black\*.

\* Of the type of *G. pardina* there are two descriptions and figures extant, namely the originals published in Mag. Zool. 1832, Cl. 1, pl. 8, and those in Cuvier's and St. Hilaire's Hist. Nat. Mamm. iii. 1833, livr. lxvi. The locality was inland of Senegal. To this Matschie adds "North Cameroons and Togoland."

The skin of the Liberian example does not agree in all respects with that of the type of *G. poensis*. In the former the spots and legs are rather blacker; the ground-colour is a dark grey, faintly washed with yellow, the chest and abdomen, and especially the chest, being decidedly darker than the sides of the body, and the pale patches on the tail are greyish. In the type specimen, however, the spots are rather browner; the limbs are "brownish black"; the ground-colour is a "deep rich yellow-brown," the rings on the tail are "yellowish" or "brownish," and the belly and chest are the same colour as the interspaces of the sides of the body, that is to say yellowish brown. The labial and sub-ocular pale spots, which are usually white in Genets, are yellow. Since learning from Mr. Thomas that amongst native-prepared African skins there are usually some discoloured by fire-smoke when being dried, I am disposed to attribute the colour differences above described between the two skins to that cause. It is certain that the fur of the type of *G. poensis* has a dirty, almost gritty feeling, and its inner side is hard, as if scorched. However that may be, I do not think there can be much doubt that the two skins belong to the same *species*; whether they represent distinct geographical races or not, additional material alone can settle.

*G. poensis* was originally described from Fernando Po. It has not been recorded since from that island. The evidence that it came from Fernando Po appears to me to be untrustworthy, judging from the rest of the skins, alleged to be from that locality, which formed the subject-matter of Mr. Waterhouse's paper. Some of the species represented, for example *Cercopithecus martini* and *C. erythrotis*, are known to occur on the mainland of Africa; and it is, in my opinion, highly probable that the entire collection came from Lower Nigeria or thereabouts\*.

As regards the allies of *G. poensis*, it appears to me to be probable that *G. angolensis* of Bocage †, recorded from Caconda in Angola, is a related form. The limbs are said to be deep black and the tail black with three or four greyish rings at the base, exactly as in the Liberian specimen of *G. poensis*. Bocage, however, describes the pattern as consisting of large quadrangular black spots and regular bands upon a cinereous ground, which seems to indicate a larger spotted form than *G. poensis*.

Nearer still to *G. poensis*, if indeed it be not specifically identical with it, as its describer suggested, is *G. genettoides* Temminck ‡, which was based upon specimens from Rio-boutry and Mina, and was said to be common on the coast of Guinea. I can find nothing in the description of the latter species to distinguish it from *G. poensis*; and the probability of their identity is enhanced by their geographical distribution §.

\* See also Pousargues, Ann. Sci. Nat. (8) iii. p. 286, 1896.

† Journ. Sci. Matt. Lisboa, ix. p. 29, 1884.

‡ Esq. Zool. Guiné, pt. 1, pp. 89-93.

§ Pousargues, on the contrary, suggested that *G. genettoides* might be a synonym of *G. pardina*.

*G. servalina* Puch. \* from the Gaboon and *G. victoriae* Thos. † from Entebbe, will also prove, I suspect, to belong to the same category of species as *G. poensis*. In *G. servalina*, however, the linear arrangement of the spots seen in *G. poensis* is not apparent and the tail is differently banded. *G. victoriae* also differs in the annulation of the tail, its paler under side and other characters. *G. victoriae* is placed by Matschie ‡ in the section of species with long-haired tails. The hairs of the tail, however, are not long in the sense that those of *G. genetta*, *G. felina*, and *G. dongolana* are long.

GENETTA JOHNSTONI, sp. n. (Plate LIV. figg. 1, 2.)

This species, which is dedicated to Sir Harry Johnston, who has interested himself in the fauna of Liberia, may be briefly diagnosed as a Genet with the tail short-haired and ornamented with eight black rings, which are longer, especially distally, than the pale rings; with a black spinal stripe and with the reddish spots on the sides rather small, close-set and forming dorsally very distinct longitudinal lines separated by narrow intervening spaces; and with the limbs for the most part dark-coloured.

Hair on body short and thick, about 20 mm. long, but frequently longer on the lumbar region of the spine, where it ranges from about 20 mm. to 30 mm., forming in the latter case a sort of crest. On the tail, especially at the root, the hair is short and thick, almost woolly, and about 22 mm. in length. Ground-colour varying from a rather rich golden or ochre-yellow to a paler, almost sandy or greyish yellow, fading to a still paler yellowish or whitish-grey tint on the under side, the belly and groin being lighter than the chest and throat. From behind the shoulder to the root of the tail there extends a spinal stripe which is always black and varies in width from about 15 to 19 mm. On each side of this there are from five to six rows of spots, the three uppermost rows being well defined and the one or two inferior rows, consisting of smaller spots, more scattered, more widely spaced and showing less regular linear arrangement. The spots of the two uppermost rows coalesce wholly or mostly into definite longitudinal stripes, in which the number of spots cannot be ascertained with certainty; there appear, however, to be about twelve from behind the shoulders to the root of the tail; the spots of the third line are less coalesced than those of the two superjacent lines. The two uppermost rows are about as wide as the spinal stripe and are always wider than the intervening pale spaces, sometimes more than twice as wide. They always differ from the spinal stripe in colour, since they consist of black and red hairs intermixed, the red hairs being rather more in evidence in the centres than at

\* Rev. Mag. Zool. 1855, p. 154, and Arch. Mus. x. p. 115, pl. x., 1858.

† P. Z. S. 1901, p. 87, pl. v.

‡ Verh. Internat. Zool. Congr. Berlin, 1901, p. 1138.

the edges of the spots or lines. This is also true of the spots of the third row; but the smaller spots of the inferior rows are blacker. On the upper part of the shoulders, the neck and the head, the stripes are well defined and of much the same tint as those of the body, except that the spinal stripe, where traceable, is not wholly black but tinged with red. On the sides of the shoulders and on the thighs the spots are mostly black. The fore-leg is mostly ashy brown or blackish brown, becoming darker distally, but down the front there extends a greyish-yellow stripe of varying width which appears, however, to die out at the wrist. The hind-legs, from the hocks downwards, are greyish- or brownish-black, and there is a varying quantity of hair of the same colour above the hock behind; but down the front there extends, for a shorter or longer distance, a pale stripe of varying width; this, however, is sometimes reduced to a mere remnant on the area between the hocks and toes. The tail presents eight black rings separated by seven pale rings, the last black ring being long, and the extreme tip brown above and whitish below. On the upper side of the tail the black stripes are longer than the pale stripes; but on the under side the pale stripes are longer than the black ones, or at least as long in the proximal half of the organ, although in the distal half the black ones are longer below as they also are above; the black stripes increase and the pale stripes decrease in length towards the distal end of the tail. The extent of the increase in the length of the black stripes varies, but where it is greatest, the longest is about three times the length of the shortest. Both the black and the white stripes are irregular in shape and never present straight and parallel anterior and posterior borders, and in the proximal half of the tail the black stripes become narrower and less intense laterally and inferiorly, whereas the pale stripes become broader and paler. The pale stripes are white below, but above they are yellowish with a varying quantity of blackish hairs passing from one black stripe to another and representing the median spinal stripe.

Length from fore part of nape to root of tail (on flat dried skin) about 375 mm. (=15 English inches)\*; of tail about 525 mm. (=21 English inches).

This is probably the Genet of Liberia which has been identified as *Genetta pardina* Is. Geoffr. St. Hilaire † (Mag. de Zool. 1832, Cl. i. pl. 8)—a species based upon a living specimen said to have come from the interior of Senegal, but which Matschie records from the North Cameroons and the coast of Togoland. *G. pardina*, however, may be distinguished from *G. johnstoni* by having the spots on the upper part of the sides of the body large, wide, separated from each other by wide intervening pale areas and

\* The complete skin would probably have measured another 125 mm. (5 English inches) giving a total of 500 mm. (20 English inches) from the tip of the nose to the root of the tail. This would make the tail approximately equal to the head and body in length.

† J. Büttkoffler, 'Reisebilder aus Liberia,' 1890; H. H. Johnston, 'Liberia,' ii. pp. 703 & 756, 1906.

ERRATUM.

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p. 1043 :—

— *for* Subsp. LIBERIENSIS, nov.

*read* Subsp. LEIGHTONI, nov.



not coalesced into definite longitudinal lines. The limbs of *G. pardina* also appear to be paler. They are at all events pale externally, for in the original description the toes and the inner sides are said to be blackish, and the figure represents the outer sides of both fore and hind limbs as much the same colour as the body. Matschie describes the legs as quite pale. In this, as in some other respects, his Togoland examples referred to *G. pardina* differ from the type of that species and may prove to be sub-specifically distinct. I think it is highly probable, perhaps certain, that *G. johnstoni* is related more nearly to *G. pardina* than to any species of Genet hitherto described. It may indeed prove to be a subspecies of that form; but until the Genets are better known, it is difficult to decide whether a specific or sub-specific value should be assigned to the various kinds that have been named.

POIANA RICHARDSONI Thomps.

*Genetta richardsoni* Thompson, Ann. Mag. Nat. Hist. x. p. 204, 1842.

Subsp. LIBERIENSIS, nov. (Plate LIV. fig. 3.)

Ground-colour of dorsal and lateral surfaces of the body and of the upper side of the tail a rich yellowish fawn; the fore-legs somewhat greyer externally; the hind-legs externally as far down as the hock about the same colour as the body, but greyer and paler below the hock anteriorly. The under side of the throat, chest and belly, the inside of the fore-limbs, of the hind-limbs as far as the hock, and the under side of the tail, except at the extreme tip, quite white, the white everywhere rather sharply defined from the yellow where the two tints are in contact. Underfur of the dorsal and lateral surfaces smoky grey, of the belly white, except close to the yellow, where the grey persists. On the body there is no great difference in tint between the underfur of a spot and of a yellow interspace; and this sometimes obtains on the tail, but in the majority of the skins, the underfur of an interspace on the tail is nearly white and much paler than that of an adjoining stripe. There is a median spinal stripe extending from between the shoulders, where it is narrowest, over the lumbar and sacral areas, where it is broadest, to the root of the tail. This is sometimes interrupted here and there, and sometimes doubled in parts and to a varying extent in some places strongly, in some places weakly zigzagged. The spots on the body are arranged in four or five longitudinal rows; they are all solid and usually longer than wide, the spaces between them being relatively narrow; those of the inferior rows are usually much smaller, those of the lowest row running along that part of the white under side which has grey underfur. These rows of spots extend backwards over the thighs and forwards over the shoulders and sides of the neck; on the sides of the neck the inferior rows do not form definite lines; the two upper rows, on

the contrary, usually form four distinct, sometimes more or less interrupted longitudinal stripes along the nape, and these are continued forwards on to the summit of the head in the only specimen in which that region is preserved. There are a few small spots on the front of the fore-leg above the wrist and a few on the hind-leg down to the hock. The back of the hind-leg below the hock is sooty. The tail is longer than the head and body; its hair is thicker but only a little longer than that of the body. It is marked with from 12 to 13 black stripes which obviously correspond with the spots of the uppermost row on each side of the body. These stripes are not regularly annuliform, for although they encircle the tail, they are much narrower laterally and inferiorly than dorsally; they are somewhat triangular in shape, the anterior border being produced forwards in the middle line, while the posterior border is correspondingly, though to a lesser extent notched. The median spinal stripe of the body is in some places represented on the tail by a median spot or abbreviated line in the middle of the interzonal spaces; but these spaces are not subdivided by a narrow secondary ring or 'shadow-stripe' which is at least traceable in the typical form of *P. richardsoni*. In the median dorsal line, there is no very great difference in length between the stripes and the interspaces in the proximal half of the tail; but in its posterior half the stripes become sometimes much, sometimes a little narrower; the extremity of the tail for about two inches beyond the last stripe is yellowish and clouded with ashy grey, representing an indistinct double stripe above.

Measurement of type specimen:—From the fore part of the nape to the root of the tail about 275 mm. (= 11 English inches); tail 400 mm. (= 16 English inches).

Mr. Leighton brought back six skins of this interesting new animal, three being apparently those of adult specimens, one sub-adult and two young. The latter are darker in hue than the others, the belly being noticeably yellow. But since the fur of both, and especially of the darker of the two, appears to have been singed, I suspect that the darkness of the pelage in these young specimens is to be attributed to fire-smoke during drying (*cf. supra*, p. 1040).

Two forms of this genus have been hitherto distinguished, namely *Poiana richardsoni* Thomps. (Ann. Mag. Nat. Hist. x. p. 204, 1842), of which the British Museum has one skin, the type, ticketed Fernando Po, two ticketed Benito River (*G. L. Bates* coll.) and one ticketed Sierra Leone; and *P. richardsoni ochracea* Thos. (Ann. Mag. Nat. Hist. (7) xix. p. 372, 1907), of which the British Museum possesses the only known specimen from Yambuya, Aruwimi, River Congo (*R. B. Woosnam*).

In the typical form of *P. richardsoni* the colour is a dusky yellowish brown; the spots are variable in size but mostly large. They do not, however, run into longitudinal lines, except on the neck and shoulders. The under side of the body and inner side of the limbs are a much dirtier white than in the Liberian animal,

and the pale tint is not so sharply defined from the yellowish tint of the sides of the body. The bands on the tail vary in thickness, but are almost parallel-sided all round and the intervening space is marked with a narrow ring which, although varying in distinctness, is always apparently detectable; the under side of the tail is not white and only a little paler than the upper. The example in the British Museum, alleged to have come from Sierra Leone, does not differ appreciably from the type and the two from the Benito River. Its locality is probably erroneous.

The type and only known example of *Poiana richardsoni ochracea* has the ground-colour a richer and more rusty yellow than in the others. The spots on the body are very small and widely spaced, and show signs of fusion into definite lines only upon the dorsal area between the shoulders. The caudal rings are narrow, much narrower than the interspaces, which have no intermediate stripe. The ventral surface of the body and tail and the insides of the limbs are yellowish and only a little paler than the dorsal surface.

The three subspecies may be distinguished as follows:—

- a.* Spots small and widely spaced; ventral surface yellowish, scarcely paler than the dorsal..... *ochracea*.
- a*<sup>1</sup>. Spots mostly large and therefore more closely-set; ventral surface white or whitish.
- b.* Dorsal surface a dusky yellow-brown; ventral surface yellowish or creamy white, gradually blending with the yellowish hue of the sides; under side of tail not white, hardly paler than the upper; rings on tail regular and annuliform, with intermediate rings more or less apparent ..... *richardsoni*.
- b*<sup>1</sup>. Dorsal surface a lighter clearer yellow; ventral surface milk-white and sharply defined from the yellow hue of the sides of the body; under side of the tail white; tail-rings not regularly annuliform, somewhat triangular in shape; intermediate rings not apparent.  
*leightoni*.

#### CEPHALOPHUS DORSALIS Gray.

*Cephalophus dorsalis* Gray, Ann. Mag. Nat. Hist. (1) xviii. p. 165, 1846; Scater & Thomas, Book of Antelopes, i. p. 155, 1895.

A single flat skin, apparently belonging to the typical race of this Antelope.

#### CEPHALOPHUS DORIE Ogilb.

*Cephalophus dorie* Ogilby, P. Z. S. 1836, p. 121; Scater & Thomas, Book of Antelopes, i. p. 171, pl. xx., 1895.

Two flat skins.

I find it impossible to compare the skins of this species in which

the back is transversely banded with black, and shows no trace of a spinal stripe, with the skin of the previous species, *C. dorsalis*, which has a broad black spinal stripe, without concluding that the stripes of *C. dorie* actually represent the spinal stripe of *C. dorsalis*. In other words, the forerunners of *C. dorie* had a wide spinal stripe which in the course of the evolution of the species became broken up into transverse black bands.

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December 10, 1907.

Sir EDMUND G. LODER, Bt., Vice-President, in the Chair.

The Secretary read the following report on the additions made to the Society's Menagerie during the month of November 1907:—

The number of registered additions to the Society's Menagerie during the month of November was 190. Of these 73 were acquired by presentation and 7 by purchase, 104 were received on deposit, 2 by exchange, and 4 were bred in the Gardens. The total number of departures during the same period, by death and removals, was 165.

Among the additions special attention may be directed to:—

A male Hamlyn's Guenon (*Cercopithecus hamlyni*), from the Ituri Forest, new to the Collection, deposited on Nov. 5th.

Two Grisons (*Galictis vittata*), from the Argentine, presented by M. C. Livingstone Learmouth, Esq., on Nov. 21st.

A collection of Rodents, including 1 Darling's Rat (*Mus chrysophilus*), 6 Vley Rats (*Otomys irroratus*), 3 Peters' Water Rats (*Dasymys incomtus*), new to the Collection, from S. Africa, deposited on Nov. 14th.

A male Yak (*Poëphagus grunniens*), from Tibet, received in exchange on Nov. 30th.

Two Mountain Ka-Kas (*Nestor notabilis*) and 3 Kiwis (*Apteryx australis*), from New Zealand, deposited on Nov. 23rd.

One Spotted Eagle (*Aquila clanga*), captured in the North Sea, presented by Capt. R. A. Allenby, R.N., on Nov. 5th.

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Mr. R. H. Burne, F.Z.S., exhibited the feet of a Common Duiker (*Cephalophus* sp.) with extensive and more or less symmetrical overgrowth of the hoofs. The overgrowth was most marked in the fore-feet, each hoof showing a tendency to an inward spiral twist. The specimen was presented to the Royal College of Surgeons' Museum by Mr. Griffin, of the Pretoria Museum, Transvaal. The Antelope was shot (wild) by a farmer, in stony bush veldt country about 40 miles from Pretoria. Nothing unusual was noticed in its gait or running powers.

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Mr. F. E. Beddard, F.R.S., Prosector to the Society, exhibited a skin of the rare Marsupial *Dactylopsila palpator* (A. Milne-Edw.), which had been placed in his hands by Dr. C. G. Seligmann, F.Z.S.

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A collection of Molluscan Shells, Corals, &c. collected in the Pamban Channel, Southern India, was exhibited on behalf of Mr. C. M. Venkataramanujalu.

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The Secretary, Dr. P. Chalmers Mitchell, F.R.S., exhibited preparations of the intestinal tracts of the Polyprotodont Marsupials *Phascogale penicillata*, *Sminthopsis larapinta*, and *S. crassicaudata*, made from specimens kindly lent him for the purpose by Mr. H. C. Beck, F.R.S., and remarked on the simplicity of the patterns displayed by the intestinal tracts of these and other *Dasyuridae* as contrasted with other Marsupials.

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The following papers were read :—

1. On the Origin of the Mammal-like Reptiles. By R. BROOM, D.Sc., C.M.Z.S., Victoria College, Stellenbosch, S. Africa.

[Received August 1, 1907.]

(Text-figures 244-247.)

A considerable amount of discussion has recently been given to the question of the origin of Mammals, and so far from a general agreement having been arrived at, men of science are becoming more definitely arranged into two groups—those who believe that mammals are descended from Amphibia and those who hold that they sprang from Reptiles; and to judge by the reports of a recent Congress, the opposing opinions seem to be held with a warmth reminiscent of a bygone age. At the meeting of the British Association in South Africa in 1905 I read a paper (1) endeavouring to show that the case for descent of the mammal from a Cynodont reptile, or a closely allied form was very strong, and that the main objection urged against it from the mode of development of Meckel's cartilage in the mammal is of no weight, the condition of affairs being exactly what we should expect from our knowledge of the Cynodonts. In the present paper I wish to say little on the origin of mammals, as the British Association paper has recently been published, and there is little to add to it that is new; but I desire to call attention to some new discoveries that throw most important light on the origin of the mammal-like reptiles. The Anomodonts, the Cynodonts, and the Therocephalians are fairly well known; some of them even as well known as regards their